

**REMARKS**

Claims 1-21 were examined in the Office Action mailed February 8, 2007.

The Applicant notes with appreciation the Examiner's helpful suggestions regarding the claim language accompanying the restated rejections.

The Applicant has considered the suggestions, and amended the claims to recite "disc-shaped" brooms throughout. In addition, the claims' recited automatic interruption of a connection between the motor drive and the driving means has been amended to recite "automatically interrupting a mechanical connection."

The pending rejections include:

- Claims 1, 3, 5, 7-8, 10, 12-13, 15 and 17-21 under 35 U.S.C. § 102(b) as anticipated by U.S. Patent No. 5,896,611 to Haaga (the applicant of the present application).
- Claims 2, 4, 6, 9, 11, 14 and 16 under 35 U.S.C. § 103(a) as unpatentable over Haaga.
- Claims 1-2, 17 and 20-21 under § 103(a) as unpatentable over U.S. Patent Publication No. 2003/0028982 ("Kress") in view of U.S. Patent No. 6,918,155 to Yacobi.

1. **The Claims Are Patentable Over Haaga.** The Applicant respectfully traverses the rejections based on Haaga (the present Applicant's patent), on the ground that this reference does not disclose or suggest all of the features of the present invention recited in the pending claims.

The invention recited in claim 1 is a broom sweeping machine in which two disc-shaped brooms mounted in a front area of the sweeping machine can be driven in opposite directions with a motor drive, driving means are provided to transfer driving forces derived from forward motion of the sweeping machine to

the disc-shaped brooms, and means are provided for automatically interrupting a mechanical connection between the motor drive and the driving means.

As a result of this configuration, the problems of the prior art (including the inability to effectively use a broom if the broom's batteries were exhausted due to the drag of the inactive drive on the broom, and the ability to use the broom with the drive active at low or no forward speed without unwanted motor-generated forward motion) are eliminated:

*This design makes it possible to continue to use the hand-operated sweeping machine even when the motor drive is not in operation, e.g., because there is no power supply, i.e., the battery charge is too low or the available cable length has been exceeded. In these cases, the sweeping machine can be used for manual operation so that the circular brooms can be driven by the forward motion. The means for automatic interruption of the connection between the motor drive and the other driving means ensure that the motor drive is functional even when the sweeping machine is stopped or is moving forward very slowly. The motor drive does not have a retroactive effect back on the other driving means and therefore does not cause any unwanted forward motion of the sweeping machine.*

Specification ¶ [0007] (emphasis added).

As previously noted, Haaga teaches “[t]he driving for the cylinder broom (21) is derived from the wheels (31). Haaga at 5:22-23. Haaga separately drives is disc-shaped, circular brooms 11, 12 with motion derived from rollers 19. Haaga at 4:64-67. Haaga further describes an alternative embodiment in which the cylindrical broom 21 may be driven by one or both of the circular brooms 11, 12, and also briefly states that electric motors may to drive the brooms. Haaga at 7:7-21.

Importantly, Haaga never describes or suggests that the disc-shaped brooms may (or even can) be *simultaneously* driven by *both* the rollers 19 and an

electric motor. This, of course, is because such an arrangement would have the drives directly conflicting with one another, with either the rollers dragging on the floor against the motion of the electric motor, or the floor-driven rollers 19 causing the electric motor to stall, drawing excessive power from the broom's batteries. Thus, contrary to the statement at page 6 of the pending Office Action, the language "modified embodiment" would *not* "lead[ ] one of skill in the art to assume that the manual broom is being modified with an electric motor," *such that both the rollers 19 and an electric motor drive the disc-shaped brooms*. At most, this brief passage would only suggest to one of skill that the Haaga broom may be modified by substitution of *alternative* drive means.

Moreover, there is no disclosure or suggestion in Haaga of a means for automatically interrupting a mechanical connection between a motor drive for the disc-shaped brooms and the disc-shaped broom's drive rollers 19.<sup>1</sup> Haaga therefore does not disclose or suggest claim 1's "means for automatically interrupting a mechanical connection between the motor drive and the driving means."<sup>2</sup>

Because Haaga does not disclose or suggest the foregoing features of the

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<sup>1</sup> The February 8, 2007 Office Action continues to maintain that the mere turning off of power to an electric drive somehow interrupts *a connection* between the electric drive and another driving means. February 8, 2007 Office Action at 2. While the Applicant continues to traverse this position (because the "interrupting" of current flow in a power line plainly does not disconnect a physical connection between two physical components, and further because the operator's manual use of a power switch can in no way be characterized as an "automatic" operation), in the interest of advancing the prosecution of this case, the Applicant has amended the claims to recite interruption of a *mechanical* connection between the disc-shaped broom's driving means.

<sup>2</sup> Even assuming that both a motor and rollers 19 drive the disc-shaped brooms, if electrical power is removed from an electric motor-equipped Haaga broom, such a broom would continue to suffer from the problems of the prior art addressed by the present invention, as the electric motor drag would preclude continued efficient use of the broom as an unpowered manual device.

present invention, this reference does not anticipates claims 1, 3, 5, 7-8, 10, 12-13, 15 and 17-21 under § 102(b), nor render claims 2, 4, 6, 9, 11, 14 and 16 unpatentable under § 103(a). Accordingly, reconsideration and withdrawal of the pending rejections based on Haaga is respectfully requested.

2. The Claims Are Patentable Over Kress and Yacobi: The Applicant respectfully traverses the § 103(a) rejection of claims 1-2, 17 and 20-21 as unpatentable over Kress in view of Yacobi.

As noted above, the claims have been amended to refer to “disc-shaped” brooms. For the reasons previously presented, the Kress and Yacobi *cylindrical* broom sweeping machines (Kress cylindrical broom 14 (“sweeping roller 14”); Yacobi cylindrical brooms 38a, 38b (“agitator brushes”)) do not suggest the present disc-shaped broom drive arrangements, and these references do not teach “means for automatically interrupting a mechanical connection between the motor drive and the driving means” (Kress’ and Yacobi’s fixed drive arrangements not teaching any device for disconnecting a drive from a broom).

Because no combination of Kress and Yacobi teaches or suggests all the features of the present invention recited in claims 1-2, 17 and 20-21, these claims are patentable over Kress and Yacobi under § 103(a). Reconsideration and withdrawal of the pending § 103(a) rejection based on Kress and Yacobi is respectfully requested.

CONCLUSION

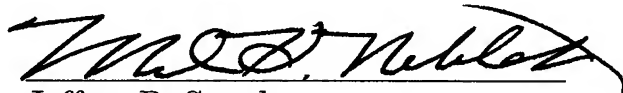
The Applicants respectfully submit that, claims 1-21 are in condition for allowance. Early and favorable consideration, and issuance of a Notice of Allowance for these claims is respectfully requested.

If there are any questions regarding this amendment or the application in general, a telephone call to the undersigned would be appreciated since this should expedite the prosecution of the application for all concerned.

If necessary to effect a timely response, this paper should be considered as a petition for an Extension of Time sufficient to effect a timely response, and please charge any deficiency in fees or credit any overpayments to Deposit Account No. 05-1323 (Docket #029384.53187US).

Respectfully submitted,

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Jeffrey D. Sanok  
Registration No. 32,169  
Mark H. Neblett  
Registration No. 42,028

CROWELL & MORING LLP  
Intellectual Property Group  
P.O. Box 14300  
Washington, DC 20044-4300  
Telephone No.: (202) 624-2500  
Facsimile No.: (202) 628-8844